AMENDMENTS TO THE CLAIMS

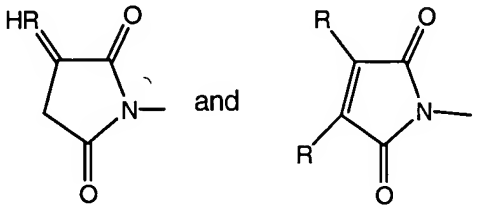
This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A polymerisation process in which ethylenically unsaturated monomers including a zwitterionic monomer of the general formula I

Y B X I

in which Y is an ethylenically unsaturated group selected from H_2C=CR-CO-A-, H_2C=CR-C_6H_4-A^1-, H_2C=CR-CH_2A^2, R^2O-CO-CR=CR-CO-O, RCH=CH-CO-O-, RCH=C(COOR^2)CH_2-CO-O,



A is -O- or NR^1;

A^1 is selected from the group consisting of a bond, $(CH_2)_nA^2$ and $(CH_2)_n$ SO_3- in which n is 1 to 12;

A^2 is selected from the group consisting of a bond, -O-, O-CO-, CO-O, CO-NR^1-, -NR^1-CO, O-CO-NR^1-, NR^1-CO-O-;

R is hydrogen or C_{1-4} alkyl;

R^1 is selected from the groups consisting of hydrogen, C_{1-4} alkyl or BX;

R^2 is hydrogen or C_{1-4} alkyl;

B is selected from the group consisting of a bond, or a straight and branched alkanediyl, alkylene oxaalkylene, and alkylene (oligooxalkylene) groups, optionally containing one or more fluorine substituents; and

X is a zwitterionic group

are polymerised by a living radical polymerisation process in the presence of an initiator, and a catalyst;

in which the initiator is a compound of general formula V

$$R^{11}R^{12}R^{13}C\text{-}Y \qquad V$$

where:

Y is selected from the group consisting of Cl, Br, I, OR^{10}, SR^{14}, SeR^{14}, $OP(=O)R^{14}$, $OP(=O)(OR^{14})_2$, $O\text{-}N(R^{14})_2$ and $S\text{-}C(=S)N(R^{14})_2$, where R^{10} is alkyl of from 1 to 20 carbon atoms in which each of the hydrogen atoms may be independently replaced by halide, R^{14} is aryl or a straight or branched C_1-C_{20} alkyl group, and where an $N(R^{14})_2$ group is present, the two R^{14} groups may be joined to form a 5- or 6-membered heterocyclic ring;

R^{11} and R^{12} are each independently selected from the group consisting of H, halogen, C_1-C_{20} alkyl, C_3-C_8 cycloalkyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, COCl, OH, CN, C_2-C_{20} alkenyl, oxiranyl, glycidyl, aryl, heterocyclyl, aralkyl and aralkenyl, in any of which the alkyl, alkenyl or aryl, heterocyclyl or cycloalkyl groups there may be from 1 to 3 substituents selected from the group consisting of hydrogen, hydroxy C_1-C_4 alkoxy, acyloxy, aryl, heterocyclyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, $-CR^{12}R^{13}Y$, $CR^{11}R^{12}Y$, oxiranyl and glycidyl;

where R^{15} is selected from the group consisting of alkyl of from 1 to 20 carbon atoms, alkoxy of from 1 to 20 carbon atoms, oligo(alkoxy) in which each alkoxy group has 1 to 3 carbon atoms, aryloxy and heterocyclyloxy groups any of which groups may have substituents selected from the group consisting of optionally substituted alkoxy, oligoalkoxy, amino (including mono-- and di-alkyl amino and trialkyl ammonium, which alkyl groups, in turn may have substiuents selected from acyl, acyloxy, alkoxy, alkoxycarbonyl, alkenoxycarbonyl, aryl and hydroxy), and hydroxyl groups;

R^{16} and R^{17} are independently selected from the group consisting of H and alkyl of from 1 to 20 carbon atoms which alkyl groups, in turn may have substiuents selected from the group consisting of alkoxy, acyl, acyloxy, alkoxycarbonyl, alkenoxycarbonyl, aryl and hydroxy, or R^{16}

and R^{17} may be joined together to form an alkanediyl group of from 2 to 5 carbon atoms, thus forming a 3- to 6-membered ring; and

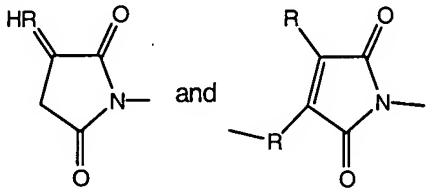
R^{13} is selected from the group consisting of biologically active group-substituted alkyl, cycloalkyl, $-COR^{15}$, $-CONR^{16}R^{17}$, alkenyl, aryl, heterocyclyl, aralkyl and aralkenyl groups, in any of which the alkyl, alkenyl, aryl, heterocyclyl or cycloalkyl groups may have from 1 to 3 substituents selected from the group consisting of hydrogen, hydroxy, C_1-C_4 alkoxy, acyloxy, aryl, heterocyclyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, $-CR^{12}R^{13}Y$, $CR^{11}R^{12}Y$, oxiranyl and glycidyl where R^{15}, R^{16} and R^{17} are groups as defined above for R^{11} and R^{12} with the biologically active group substituted on an alkyl, cycloalkyl, alkenyl, aryl or heterocyclyl group.

Claims 2-32 (canceled).

33. (new): A polymerisation process in which ethylenically unsaturated monomers including a zwitterionic monomer of the general formula I

Y B X I

in which Y is an ethylenically unsaturated group selected from $H_2C=CR-CO-A-$, $H_2C=CR-C_6H_4-A^1-$, $H_2C=CR-CH_2A^2$, $R^2O-CO-CR=CR-CO-O$, $RCH=CH-CO-O-$, $RCH=C(COOR^2)CH_2-CO-O$,



A is -O- or NR^1;

A^1 is selected from the group consisting of a bond, $(CH_2)_nA^2$ and $(CH_2)_n\ SO_3-$ in which n is 1 to 12;

A^2 is selected from the group consisting of a bond, -O-, O-CO-, CO-O, $CO-NR^{1-}$, $-NR^1-CO$, $O-CO-NR^1-$, $NR^1-CO-O-$;

R is hydrogen or C_{1-4} alkyl;

R^1 is selected from the groups consisting of hydrogen, C_{1-4} alkyl or BX;

R^2 is hydrogen or C_{1-4} alkyl;

B is selected from the group consisting of a bond, or a straight and branched alkanediyl, alkylene oxaalkylene, and alkylene (oligooxalkylene) groups, optionally containing one or more fluorine substituents; and

X is a zwitterionic group

are polymerised by a living radical polymerisation process in the presence of an initiator, and a catalyst;

in which the initiator is a compound of general formula V

$$R^{11}R^{12}R^{13}C\text{-}Y \qquad V$$

where:

Y is selected from the group consisting of Cl, Br, I, OR^{10}, SR^{14}, SeR^{14}, $OP(=O)R^{14}$, $OP(=O)(OR^{14})_2$, $O\text{-}N(R^{14})_2$ and $S\text{-}C(=S)N(R^{14})_2$, where R^{10} is alkyl of from 1 to 20 carbon atoms in which each of the hydrogen atoms may be independently replaced by halide, R^{14} is aryl or a straight or branched C_1-C_{20} alkyl group, and where an $N(R^{14})_2$ group is present, the two R^{14} groups may be joined to form a 5- or 6-membered heterocyclic ring;

R^{11} and R^{12} are each independently selected from the group consisting of H, halogen, C_1-C_{20} alkyl, C_3-C_8 cycloalkyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, COCl, OH, CN, C_2-C_{20} alkenyl, oxiranyl, glycidyl, aryl, heterocyclyl, aralkyl and aralkenyl, in any of which the alkyl, alkenyl or aryl, heterocyclyl or cycloalkyl groups there may be from 1 to 3 substituents selected from the group consisting of hydrogen, hydroxy C_1-C_4 alkoxy, acyloxy, aryl, heterocyclyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, $-CR^{12}R^{13}Y$, $CR^{11}R^{12}Y$, oxiranyl and glycidyl;

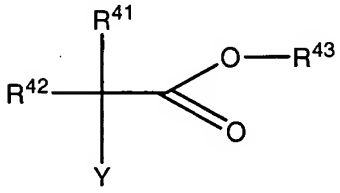
where R^{15} is selected from the group consisting of alkyl of from 1 to 20 carbon atoms, alkoxy of from 1 to 20 carbon atoms, oligo(alkoxy) in which each alkoxy group has 1 to 3 carbon atoms, aryloxy and heterocyclyloxy groups any of which groups may have substituents selected from the group consisting of optionally substituted alkoxy, oligoalkoxy, amino

(including mono-- and di-alkyl amino and trialkyl ammonium, which alkyl groups, in turn may have substiuents selected from acyl, acyloxy, alkoxy, alkoxycarbonyl, alkenoxycarbonyl, aryl and hydroxy), and hydroxyl groups;

R^{16} and R^{17} are independently selected from the group consisting of H and alkyl of from 1 to 20 carbon atoms which alkyl groups, in turn may have substiuents selected from the group consisting of alkoxy, acyl, acyloxy, alkoxycarbonyl, alkenoxycarbonyl, aryl and hydroxy, or R^{16} and R^{17} may be joined together to form an alkanediyl group of from 2 to 5 carbon atoms, thus forming a 3- to 6-membered ring; and

R^{13} is selected from the group consisting of biologically active group-substituted alkyl, cycloalkyl, -COR^{15}, -$CONR^{16}R^{17}$, alkenyl, aryl, heterocyclyl, aralkyl and aralkenyl groups, in any of which the alkyl, alkenyl, aryl, heterocyclyl or cycloalkyl groups may have from 1 to 3 substituents selected from the group consisting of hydrogen, hydroxy, C_1-C_4 alkoxy, acyloxy, aryl, heterocyclyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, -$CR^{12}R^{13}Y$, $CR^{11}R^{12}Y$, oxiranyl and glycidyl where R^{15}, R^{16} and R^{17} are groups as defined above for R^{11} and R^{12} with the biologically active group substituted on an alkyl, cycloalkyl, alkenyl, aryl or heterocyclyl group.

34. (new): A process according to claim 33 in which the initiator is a compound of general formula VI



VI

where R^{41} and R^{42} are independently selected from hydrogen, straight, branched and cyclic alkyl, aryl, aralkyl, hydroxy-alkyl and acyloxyalkyl.

R^{43} is a biologically active moiety; and

Y as defined in claim 1.

35. (new): A process according to claim 33 in which either

a) R^{41} and R^{42} are each methyl; or

b) R^{41} is hydrogen and R^{42} is methyl.

36. (new): A process according to claim 33 in which the biologically active moiety is a steroid moiety.

37. (new): A process according to claim 34 in which R^{43} is derived from a pharmaceutically or diagnostically active alcohol $R^{43}OH$.

38. (new): A process according to claim 37 in which $R^{43}OH$ is a carbohydrate.

39. (new): A process according to claim 35 in which R^{43} is $R^{44}AL$- derived from $R^{44}ALOH$ in which R^{44} is derived from a pharmacologically or diagnostically active compound $R^{44}AH$ where A is a divalent moiety selected from the group consisting of O, NR^{35} (R^{35} is H or lower alkyl), COO and $CONR^{35}$, and L is a divalent linker.

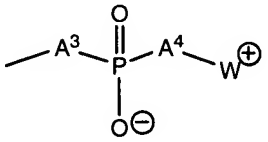
40. (new): A process according to claim 39 in which L is an oligo-peptide-based linker.

41. (new): A process according to claim 33 in which the product polymer has a molecular weight in the range 1000 to 100,000.

42. (new): A process according to claim 33 in which the product polymer has a polydispersity less than 1.5.

43. (new): A process according to claim 33 in which X is an ammonium, phosphonium, or sulphonium phosphate or phosphonate ester zwitterionic group.

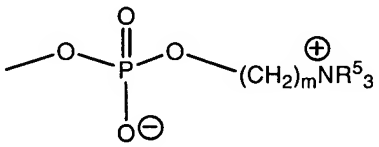
44. (new): A process according to claim 43 in which X is a group of the general formula II



II

in which the moieties A^3 and A^4, which are the same or different, are -O-, -S-, -NH- or a valence bond and W^+ is a group comprising an ammonium, phosphonium or sulphonium cationic group and a group linking the anionic and cationic moieties which is a C_{1-12}-alkanediyl group.

45. (new): A process according to claim 44 in which X is a group of general formula III



III

where the groups R^5 are the same or different and each is hydrogen or C_{1-4} alkyl, and m is from 1 to 4.

46. (new): A process according to claim 33 in which Y is H_2C=CR-CO-A- in which R is hydrogen or methyl and A is O.

47. (new): A polymerisation process according to claim 33 in which B is a straight chain C_{2-6} -alkanediyl.

48. (new): A polymerisation process according to claim 33 in which the zwitterionic monomer is 2-methacryloyloxyethyl-2'- trimethylammonium ethyl phosphate inner salt.

49. (new): A polymerisation process according to claim 33 in which the polymerisation mixture contains a non-polymerisable solvent, in an amount, in the range of 10 to 500% by weight based on the weight of ethylenically unsaturated monomer.

50. (new): A polymerisation process according to claim 33 in which the ethylenically unsaturated monomer includes at least one comonomer, selected from anionic, cationic and non-ionic monomers and mixtures thereof.

51. (new): A polymerisation process according to claim 33 in which the catalyst comprises a transition metal compound and a ligand, in which the transition metal compound is capable of participating in a redox cycle with the initiator and dormant polymer chain, and the ligand is either any N-, O-, P- or S- containing compound which can coordinate with the transition metal atom in a σ-bond, or any carbon-containing compound which can coordinate with the transition metal in a π-bond, such that direct bonds between the transition metal and growing polymer radicals and not formed.

52. (new): A polymerisation process according to claim 51 in which the transition metal compound has the formula $M_t^{n+}X'_n$, where:

M_t^{n+} may be selected from the group consisting of Cu^{1+}, Cu^{2+}, Fe^{2+}, Fe^{3+}, Ru^{2+}, Ru^{3+},Cr^{2+}, Cr^{3+}, Mo^{2+}, Mo^{3+}, W^{2+}, W^{3+}, Mn^{2+}, Mn^{3+}, Mn^{4+}, Rh^{3+}, Rh^{4+}, Re^{2+}, Re^{3+}, Co^{+}, Co^{2+}, Co^{3+}, V^{2+}, V^{3+}, Zn^{+}, Zn^{2+}, Ni^{2+}, Ni^{3+}, Au^{+}, Au^{2+}, Ag^{+} and Ag^{2+};

X' is selected from the group consisting of halogen, C_{12}-C_6-alkoxy, $(SO_4)_{½}$, $(PO_4)_{1/3}$, $(R^{18}PO_4)½$, $(R^{18}{}_2PO_4)$, triflate, hexafluorophosphate, methanesulphonate, arylsulphonate, CN and $R^{19}CO_2$, where R^{18} is aryl or a straight or branched $C_{1\text{-}20}$ alkyl and R^{19} is H or a straight or branched C_1-C_6 alkyl group which may be substituted from 1 to 5 times with a halogen; and

n is the formal charge on the metal ($0 \leq n \leq 7$).

53. (new): A polymerisation process according to claim 52 in which the metal compound is CuHal or $RuHal_2$ where Hal is chlorine or bromine.

54. (new): A polymerisation process according to claim 51 wherein said ligand is selected from the group consisting of:

a) compounds of the formulas:

$$R^{20}\text{-}Z\text{-}R^{21} \quad \text{and}$$

$$R^{20}\text{-}Z\text{-}(R^{22}\text{-}Z)_m\text{-}R^{21}$$

where:

R^{20} and R^{21} are independently selected from the group consisting of H, C_1-C_{20} alkyl, aryl, heterocyclyl,C_1-C_6 alkoxy, C_1-C_4 dialkylamino, $C(=O)R^{22}$, $C(=O)R^{23}R^{24}$ and $A^7C(=O)R^{25}$, where A^7 may be NR^{26} or O; R^{22} is alkyl of from 1 to 20 carbon atoms, aryloxy or heterocyclyloxy; R^{23} and R^{24} are independently H or alkyl of from 1 to 20 carbon atoms or R^{23} and R^{24} may be joined together to form an alkanediyl group of from 2 to 5 carbon atoms, thus forming a 3- to 6-membered ring; R^{25} is H, straight or branched C_1-C_{20} alkyl or aryl and R^{26} is hydrogen, straight or branched; $C_{1\text{-}20}$-alkyl or aryl; or R^{20} and R^{21} may be joined to form together with Z, a saturated or unsaturated ring;

Z is O, S, NR^{27} or PR^{27}, where R^{27} is selected from the same group as R^{20} and R^{21}, and where Z is PR^{27}, R^{27} can also C_1-C_{20} alkoxy or Z may be a bond CH_2 or a fused ring, where one or both of R^{20} and R^{23} is heterocyclyl,

each R^{22} is independently a divalent group selected from the group consisting of C_1-C_8 cycloalkanediyl, C_1-C_8 cycloalkanediyl, arenediyl and heterocyclylene where the covalent bonds to each Z are at vicinal positions or R^{22} may be joined to one or both of R^{20} and R^{21} to formulate a heterocyclic ring system; and

m is from 1 to 6;

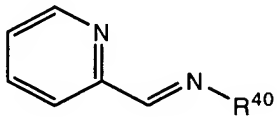
b) CO;

c) porphyrins and porphycenes, which may be substituted with from 1 to 6 halogen atoms, C_{1-6} alkyl groups, C_{1-6}-alkoxy groups, C_{1-6} alkoxycarbonyl, aryl groups, heterocyclyl groups, and C_{1-6} alkyl groups further substituted with from 1 to 3 halogens;

d) compounds of the formula $R^{23}R^{24}C(C(=O)R^{25})_2$, where R^{25} is C_{1-20} alkyl, C_{1-20} alkoxy, aryloxy or heterocyclyloxy; and each of R^{23} and R^{24} is independently selected from the group consisting of H, halogen, C_{1-20} alkyl, aryl and heterocyclyl, and R^{23} and R^{24} may be joined to form a C_{1-8} cycloalkyl ring or a hydrogenated aromatic or heterocyclic ring, of which the ring atoms may be further substituted with 1 to 5 C_{1-6} alkyl groups, C_{1-6} alkoxy groups, halogen atoms, aryl groups, or combinations thereof; and

e) arenes and cyclopentadienyl ligands, where said cyclopentadienyl ligand may be substituted with from one to five methyl groups, or may be linked through and ethylene or propylene chain to a second cyclopentadienyl ligand.

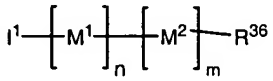
55. (new): A polymerisation process according to claim 54 in which the ligand is selected from the group consisting of bipyridine, triphenylphosphine, 1,1,4,7,10,10-hexamethyl-triethylene tetramine, or a compound of the general formula VII



VII

where R^{40} is an alkyl or substituted alkyl group, in which the substituent is selected from amino, including alkylamino and acylamino, alkoxy, hydroxy, acyl, acyloxy, alkoxycarbonyl, heterocyclyl, ionic groups and halogen.

56. (new): A compound comprising a conjugate of a biologically active moiety and a polymeric group having a general formula:

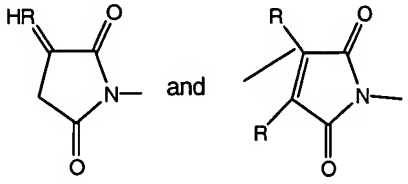


VIII

in which M^1 is the divalent group formed when the compound of the general formula I

Y B X I

in which Y is an ethylenically unsaturated group selected from H_2C=CR-CO-A-, H_2C=CR-C_6H_4-A^1-, H_2C=CR-CH_2A^2, R^2O-CO-CR=CR-CO-O, RCH=CH-CO-O-, RCH=C(COOR^2)CH_2-CO-O,



A is -O- or NR^1;

A^1 is selected from the group consisting of a bond, $(CH_2)_nA^2$ and $(CH_2)_n$ SO_3- in which n is 1 to 12;

A^2 is selected from the group consisting of a bond, -O-, O-CO-, CO-O, CO-NR^1-, -NR^1-CO, O-CO-NR^1-, NR^1-CO-O-;

R is hydrogen or C_{1-4} alkyl;

R^1 is selected from the groups consisting of hydrogen, C_{1-4} alkyl or BX;

R^2 is hydrogen or C_{1-4} alkyl;

B is selected from the group consisting of a bond, or a straight and branched alkanediyl, alkylene oxaalkylene, and alkylene (oligooxalkylene) groups, optionally containing one or more fluorine substituents; and

X is a zwitterionic group is polymerised, M^2 is the divalent group formed when an ethyleneically unsaturated comonomer selected from amino, cationic and non-ionic monomers is polymerised, and I^1 is the residue of a initiator of general formula V

$R^{11}R^{12}R^{13}C$-Y V

where:

Y is selected from the group consisting of Cl, Br, I, OR^{10}, SR^{14}, SeR^{14}, $OP(=O)R^{14}$, $OP(=O)(OR^{14})_2$, $O\text{-}N(R^{14})_2$ and $S\text{-}C(=S)N(R^{14})_2$, where R^{10} is alkyl of from 1 to 20 carbon atoms in which each of the hydrogen atoms may be independently replaced by halide, R^{14} is aryl or a straight or branched C_1-C_{20} alkyl group, and where an $N(R^{14})_2$ group is present, the two R^{14} groups may be joined to form a 5- or 6-membered heterocyclic ring;

R^{11} and R^{12} are each independently selected from the group consisting of H, halogen, C_1-C_{20} alkyl, C_3-C_8 cycloalkyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, COCl, OH, CN, C_2-C_{20} alkenyl, oxiranyl, glycidyl, aryl, heterocyclyl, aralkyl and aralkenyl, in any of which the alkyl, alkenyl or aryl, heterocyclyl or cycloalkyl groups there may be from 1 to 3 substituents selected from the group consisting of hydrogen, hydroxy C_1-C_4 alkoxy, acyloxy, aryl, heterocyclyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, $-CR^{12}R^{13}Y$, $CR^{11}R^{12}Y$, oxiranyl and glycidyl;

where R^{15} is selected from the group consisting of alkyl of from 1 to 20 carbon atoms, alkoxy of from 1 to 20 carbon atoms, oligo(alkoxy) in which each alkoxy group has 1 to 3 carbon atoms, aryloxy and heterocyclyloxy groups any of which groups may have substituents selected from the group consisting of optionally substituted alkoxy, oligoalkoxy, amino (including mono-- and di-alkyl amino and trialkyl ammonium, which alkyl groups, in turn may have substiuents selected from acyl, acyloxy, alkoxy, alkoxycarbonyl, alkenoxycarbonyl, aryl and hydroxy), and hydroxyl groups;

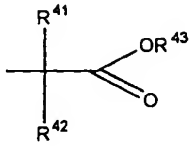
R^{16} and R^{17} are independently selected from the group consisting of H and alkyl of from 1 to 20 carbon atoms which alkyl groups, in turn may have substiuents selected from the group consisting of alkoxy, acyl, acyloxy, alkoxycarbonyl, alkenoxycarbonyl, aryl and hydroxy, or R^{16} and R^{17} may be joined together to form an alkanediyl group of from 2 to 5 carbon atoms, thus forming a 3- to 6-membered ring; and

R^{13} is selected from the group consisting of biologically active group-substituted alkyl, cycloalkyl, $-COR^{15}$, $-CONR^{16}R^{17}$, alkenyl, aryl, heterocyclyl, aralkyl and aralkenyl groups, in any of which the alkyl, alkenyl, aryl, heterocyclyl or cycloalkyl groups may have from 1 to 3

substituents selected from the group consisting of hydrogen, hydroxy, C_1-C_4 alkoxy, acyloxy, aryl, heterocyclyl, $C(=O)R^{15}$, $C(=O)NR^{16}R^{17}$, $-CR^{12}R^{13}Y$, $CR^{11}R^{12}Y$, oxiranyl and glycidyl where R^{15}, R^{16} and R^{17} are groups as defined above for R^{11} and R^{12} with the biologically active group substituted on an alkyl, cycloalkyl, alkenyl, aryl or heterocyclyl group.
which comprises said biologically active moiety, and R^{36} is a monofunctional group or atom which terminates the polymeric group $M^1{}_n$, n is at least 2 and m is at least 0.

57. (new): A compound according to claim 56 in which I^1 is $-CR^{11}R^{12}R^{13}$ in which R^{11} to R^{13} are as defined in claim 56.

58. (new): A compound according to claim 56 in which I^1 is a group



in which R^{41} and R^{42} are independently selected from hydrogen, straight, branched and cyclic alkyl, aryl, aralkyl, hydroxy-alkyl and acyloxyalkyl.

R^{43} is a biologically active moiety; and

Y as defined in claim 1.

59. (new): A compound according to claim 56 in which the compound has a molecular weight in the range 1000 to 100,000.

60. (new): A compound according to claim 56 which has a polydispersity less than 1.5.

61. (new): A compound according to claim 56 in which groups M^1 and M^2 are randomly arranged.

62. (new): A compound according to claim 56 in which the polymeric group is a block polymeric group, in which one block comprises residues M^1 and another block comprises residues M^2, and in which either the M^1-containing block, or the M^2-containing block is attached to I^1.

63. (new): A compound according to claim 56 which is soluble in water.

64. (new): A process according to claim 34 in which Y is a halogen atom.

65. (new): A process according to claim 36 in which the steroid is cholesterol.

66. (new): A process according to claim 38 in which the carbohydrate is a saccharide.

67. (new): A process according to claim 41 in which the product polymer has a molecular weight in the range 2000 to 50000.

68. (new): A process according to claim 44 in which W^+ is a group of formula $-W^1-N^+R^3_3$, $-W^1-P^+R^4_3$, $-W^1-S^+R^4_2$ or $-W^1-Het^+$ in which:

W^1 is selected from the group consisting of alkanediyl of 1 or more, preferably 2-6 carbon atoms optionally containing one or more ethylenically unsaturated double or triple bonds, disubstituted-aryl (arylene), alkylene arylene, arylene alkylene, alkylene aryl alkylene, cycloalkanediyl, alkylene cycloalkyl, cycloalkyl alkylene and alkylene cycloalkyl alkylene, which group W^1 optionally contains one or more fluorine substituents and/or one or more functional groups; and

either the groups R^3 are the same or different and each is hydrogen or alkyl of 1 to 4 carbon atoms, preferably methyl, or aryl, such as phenyl, or two of the groups R^3 together with the nitrogen atom to which they are attached form an aliphatic heterocyclic ring containing from 5 to 7 atoms, or the three groups R^3 together with the nitrogen atom to which they are attached

form a fused ring structure containing from 5 to 7 atoms in each ring, and optionally one or more of the groups R^3 is substituted by a hydrophilic functional group; and

the groups R^4 are the same or different and each is R^3 or a group OR^3, where R^3 is as defined above; or

Het is an aromatic nitrogen-, phosphorus- or sulphur-containing ring.

69. (new): A process according to claim 45 in which all the groups R^3 are methyl.

70. (new): A process according to claim 50 in which the comonomer comprises non-ionic monomer.

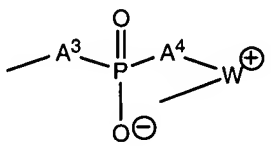
71. (new): A compound according to claim 58 in which either

a) R^{41} and R^{42} are each methyl; or

b) R^{41} is hydrogen and R^{42} is methyl.

72. (new): A compound according to claim 58 in which R^{43} is $R^{44}AL$- derived from $R^{44}ALOH$ in which R^{44} is derived from a pharmacologically or diagnostically active compound $R^{44}AH$ where A is a divalent moiety selected from the group consisting of O, NR^{35} (R^{35} is H or lower alkyl), COO and $CONR^{35}$, and L is a divalent linker.

73. (new): A compound according to claim 56 in which X is a group of the general formula II



II

in which the moieties A^3 and A^4, which are the same or different, are -O-, -S-, -NH- or a valence bond and W^+ is a group comprising an ammonium, phosphonium or sulphonium cationic group and a group linking the anionic and cationic moieties which is a C_{1-12}-alkanediyl group.

74. (new): A compound according to claim 73 in which W^+ is a group of formula $-W^1-N^+R^3_3$, $-W^1-P^+R^4_3$, $-W^1-S^+R^4_2$ or $-W^1-Het^+$ in which:

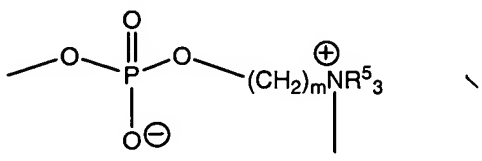
W^1 is selected from the group consisting of alkanediyl of 1 or more, preferably 2-6 carbon atoms optionally containing one or more ethylenically unsaturated double or triple bonds, disubstituted-aryl (arylene), alkylene arylene, arylene alkylene, alkylene aryl alkylene, cycloalkanediyl, alkylene cycloalkyl, cycloalkyl alkylene and alkylene cycloalkyl alkylene, which group W^1 optionally contains one or more fluorine substituents and/or one or more functional groups; and

either the groups R^3 are the same or different and each is hydrogen or alkyl of 1 to 4 carbon atoms, preferably methyl, or aryl, such as phenyl, or two of the groups R^3 together with the nitrogen atom to which they are attached form an aliphatic heterocyclic ring containing from 5 to 7 atoms, or the three groups R^3 together with the nitrogen atom to which they are attached form a fused ring structure containing from 5 to 7 atoms in each ring, and optionally one or more of the groups R^3 is substituted by a hydrophilic functional group; and

the groups R^4 are the same or different and each is R^3 or a group OR^3, where R^3 is as defined above; or

Het is an aromatic nitrogen-, phosphorus- or sulphur- containing ring.

75. (new): A compound according to claim 73 in which X is a group of general formula III



III

where the groups R^5 are the same or different and each is hydrogen or C_{1-4} alkyl, and m is from 1 to 4.

76. (new): A compound according to claim 56 in which Y is H_2C=CR-CO-A- in which R is hydrogen or methyl and A is O.

77. (new): A compound according to claim 56 in which B is a straight chain C_{2-6} - alkanediyl.

78. (new): A compound according to claim 56 in which the zwitterionic monomer is 2-methacryloyloxyethyl-2'- trimethylammonium ethyl phosphate inner salt.